

WHAT IS CLAIMED IS:

1. An automotive air conditioner comprising:
 - a case having an air inlet opening, a ventilation air outlet opening and a foot air outlet opening;
 - 5 an evaporator installed in said case;
 - a heater installed in said case;
 - an upstream air flow passage defined in said case and extending from said air inlet opening to said evaporator;
 - 10 an air mix chamber defined in said case, said air mix chamber having a downstream portion which is communicated with said ventilation air outlet and foot air outlet openings;
 - a bypass passage extending from said evaporator to said air mix chamber bypassing said heater;
 - 15 a first heater passage extending from said evaporator to said heater;
 - a second heater passage extending from said heater to said air mix chamber, said second heater passage having an outlet opening exposed to said air mix chamber;
 - 20 an air mix door unit installed in said case in such a manner as to vary a sectional area of at least said bypass passage; and
 - an air guide arrangement provided at a position downstream of said air mix door unit, said air guide arrangement including a raised structure that extends across said bypass passage from a first position near said outlet opening of said 25 second heater passage to a second position that is opposite to said first position with respect to said bypass passage.
2. An automotive air conditioner as claimed in Claim 1, in which said air mix door unit arranged to vary a sectional area of both said bypass passage and said first heater passage.
3. An automotive air conditioner as claimed in Claim 2, in which said air mix door unit comprises:

a door case having an air inlet aperture facing said evaporator, a first outlet opening merged with said first heater passage and a second outlet opening merged with said bypass passage; and

5 a slide door slidable relative to said door case to vary the open degree of said first and second outlet openings.

4. An automotive air conditioner as claimed in Claim 3, in which said air guide arrangement comprises:

10 an air guide structure which extends across said bypass passage in the vicinity of said second outlet opening of said air mix door unit; and

15 an air guide opening formed on the outlet end of said second heater passage, said air guide opening being directed toward said air guide structure.

5. An automotive air conditioner as claimed in Claim 4, in which said air guide structure is mounted to a rear wall of said door case to divide said second outlet opening into abreast arranged two open portions.

20 6. An automotive air conditioner as claimed in Claim 4, in which said air guide structure comprises:

an elongate base plate which extends across said second outlet opening; and

25 a baffle plate which is raised from a middle portion of said base plate into said air mix chamber.

7. An automotive air conditioner as claimed in Claim 4, in 30 which said air guide structure comprises:

an elongate base plate which extends across said second outlet opening; and

two baffle plates which are raised from laterally side ends

of said base plate into said air mix chamber thereby to constitute an air guide groove between said two baffle plates.

8. An automotive air conditioner as claimed in Claim 4, in

5 which said air guide structure comprises:

an elongate base plate which extends across said second outlet opening;

a center major baffle plate which is raised from a laterally middle portion of said base plate into said air mix chamber; and

10 two smaller baffle plates which are raised from lateral end portions of said base plate thereby to provide two guide grooves at either sides of said center major baffle plate.

9. An automotive air conditioner as claimed in Claim 8, in

15 which said two smaller baffle plates are raised from lateral ends of said base plate.

10. An automotive air conditioner as claimed in Claim 4, in

which said air guide structure comprises:

20 at least two air guide structure units which extend across different portions of said second outlet opening, each air guide structure unit including an elongate base plate extending across said second outlet opening and a smaller baffle plate which is raised from a laterally middle portion of the base plate.

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11. An automotive air conditioner as claimed in Claim 1, in which said ventilation air outlet and foot air outlet openings of said case are respectively equipped with pivot doors of butterfly type, each pivot door being pivotal about an axis which passes 30 through a middle portion of the pivot door.

12. An automotive air conditioner as claimed in Claim 11, in

which said foot air outlet opening is equipped with a door stopper

which stops an excessive pivoting of the corresponding pivot door in said air mix chamber.

13. An automotive air conditioner as claimed in Claim 1, in
5 which the raised structure of said air guide arrangement is
arranged to force an air flow from said outlet opening of said
second heater passage to mix with an air flow which runs in a
direction from said bypass toward said ventilation air outlet
opening.

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14. An automotive air conditioner comprising:
a case having an air inlet opening, a ventilation air outlet
opening and a foot air outlet opening;
butterfly-type pivot doors respectively provided by said
15 ventilation and foot air outlet openings, each pivot door having a
center axis about which a valve proper rotates;
an evaporator installed in said case;
a heater installed in said case;
an upstream air flow passage defined in said case and
20 extending from said air inlet opening to said evaporator;
an air mix chamber defined in said case, said air mix
chamber having a downstream portion which is communicated
with said ventilation air outlet and foot air outlet openings;
a bypass passage extending from said evaporator to said
25 air mix chamber bypassing said heater;
a first heater passage extending from said evaporator to
said heater;
a second heater passage extending from said heater to said
air mix chamber, said second heater passage having an outlet
30 opening exposed to said air mix chamber;
an air mix door unit installed in said case in such a manner
as to vary a sectional area of both said bypass passage and said
first heater passage; and

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an air guide arrangement provided at a position downstream of said air mix door unit, said air guide arrangement including a raised structure that extends across said bypass passage from a first position near said outlet opening of said 5 second heater passage to a second position that is opposite to said first position with respect to said bypass passage, so that said raised structure of said air guide arrangement forces a first air flow from said outlet opening of said second heater passage to mix with a second air flow which runs in a direction from said 10 bypass passage toward said ventilation air outlet opening.

15. An automotive air conditioner as claimed in Claim 14, in which said air guide arrangement comprises:
- an elongate member which extends across said second air 15 flow; and
- an air guide opening which is constructed to direct said first air flow toward said elongate member.

ATTORNEY DOCKET NUMBER